

claim 10. Claims 4, 6, 7, 8, 9, 10 and 11 are believed to patentably distinguish over the art of record.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Felix J. D'Ambrosio", written in a cursive style.

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--The present invention relates to a pipe joint made of resin, and particularly to a pipe joint made of resin which is used [in] for the connection of piping for a liquid having high purity or ultrapure water to be handled in a production process of various technical fields such as the production of semiconductor devices, the production of medical equipment and medicine, food processing, and the chemical industry.--

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--[Disclosure of] Summary of the Invention

The present invention has been conducted in view of the above-mentioned background of the art. It is an object of the present invention to provide a pipe joint made of resin which, although not requiring skill and experience [in a] pipe connection [work], can generate a high contact pressure so that an excellent sealing performance can be ensured for a long term in spite of a temporal creep or stress relaxation.

The pipe joint made of resin of the present invention is a pipe joint made of resin characterized in that the pipe joint comprises: a sleeve-like inner ring which is to be pressingly inserted into one end portion of a pipe member to be integrated with the pipe member under a state where the inner ring--

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--formed in addition to the above-mentioned sealing portion, so that the sealing performance can be further improved.

Brief Description of Drawings

Fig. 1 is a longitudinal side section view showing a pipe joint made of resin of Embodiment 1 of the invention,

Fig. 2 is an enlarged half section view of main portions of Fig. 1,

Fig. 3 is a half section view of main portions and illustrating the detail of the main configuration of Fig. 1,

Fig. 4 is an enlarged half section view of main portions of a pipe joint made of resin of Embodiment 2 of the invention,

Fig. 5 is an enlarged half section view of main portions of a pipe joint made of resin of Embodiment 3 of the invention,

Fig. 6 is an enlarged half section view of main portions of a pipe joint made of resin of Embodiment 4 of the invention,

Fig. 7 is an enlarged half section view of main portions showing an example of a pipe joint made of resin of the conventional art,

Fig. 8 is an enlarged half section view of main portions showing another example of a pipe joint made of resin of the convention art, and

Fig. 9 is an enlarged half section view of main portions showing a further example of a

pipe joint made of resin of the convention art.

[Best Mode for Carrying Out] Detailed Description of the Preferred Embodiments of the
Invention

Embodiment 1 will be described. A pipe joint made of--

MARKED-UP COPY OF AMENDED CLAIMS 4, 6, 7, 8 AND 9

4. [(4)] (Amended) A pipe joint made of resin according to claim [1] 10, wherein one or plural projections which are projected in a radially outward direction and abut against an inner peripheral face of said receiving port of said joint body to form said sealing portion are disposed on said outer radial face of said projected tip end portion of said inner ring.

6. [(6)] (Amended) A pipe joint made of resin according to claim [1] 10, wherein said outer radial face of said projected tip end portion of said inner ring is formed as a conical tapered face in which a diameter is smaller as further moving toward an outer side in the axial direction.

7. [(7)] (Amended) A pipe joint made of resin according to claim 4, wherein said outer radial face of said projected tip end portion of said inner ring on which said projections are formed is formed as a conical tapered face in which a diameter is smaller as further moving toward an outer side in the axial direction.

8. [(8)] (Amended) A pipe joint made of resin according to claim [1] 10, wherein a cylindrical portion which abuts against an inner peripheral face of a cylindrical portion on an inner radial side of said cylindrical groove of said joint body is formed integrally with an inner radial side of said projected tip end portion of said inner ring.

9. [(9)] (Amended) A pipe joint made of resin according to claim 4, wherein a cylindrical portion which abuts against an inner peripheral face of a cylindrical portion on an inner radial side of said cylindrical groove of said joint body is formed integrally with an inner radial side of said projected tip end portion of said inner ring on which said projections are formed.

MARKED-UP COPY OF AMENDED ABSTRACT

--ABSTRACT

[According to the invention, a] A cylindrical projecting portion [(8)] is disposed in a projected tip end portion of an inner ring [(2)] which is to be pressingly inserted into one end portion of a pipe member [(12)] to be integrated therewith, an inner radial face of the cylindrical projecting portion [(8)] is formed as a conical tapered face [(8a)] in which the diameter is larger as one moves [further moving] toward the outer side in the axial direction, and a cylindrical groove [(6)] into which the cylindrical projecting portion [(8)] of the inner ring [(2)] including the conical tapered face [(8a)] is to be fitted in the axial direction to form a sealing portion is formed in an inner area of a receiving port [(4)] of [the] a joint body [(1)] to form sealing portions (7A, 7B) between the two members [(1)] and [(2)], whereby even a small fastening force due to screw advancement of a pressing ring [(3)] is enabled to generate a high contact pressure between the tapered face [(8a)] and an outer radial face [(8b)], and faces [(10a)] and [(4a)] which are opposed thereto, to ensure a sealing performance of very high reliability.--